

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-21 (Canceled).

22. (Previously presented) A method for making an aluminum matrix composite wire comprising a plurality of substantially continuous, longitudinally positioned fibers in a matrix comprising aluminum, the method comprising:

providing a contained volume of molten matrix material;

immersing a plurality of substantially continuous fibers into the contained volume of molten matrix material, wherein the fibers comprise, on a theoretical oxide basis, Al_2O_3 in a range of about 35 weight percent to about 75 weight percent, SiO_2 in a range of greater than zero weight percent to less than about 50 weight percent, and B_2O_3 in a range of greater than about 5 weight percent, based on the total metal oxide content of the respective fiber;

imparting ultrasonic energy to cause vibration of at least a portion of the contained volume of molten matrix material to permit at least a portion of the molten matrix material to infiltrate into and wet the plurality of fibers such that an infiltrated, wetted plurality of fibers is provided; and

withdrawing the infiltrated, wetted plurality of fibers from the contained volume of molten matrix material under conditions which permit the molten matrix material to solidify to provide an aluminum matrix composite wire comprising a plurality of the fibers, wherein the fibers are substantially continuous, longitudinally positioned in a matrix including aluminum, and wherein the wire has a nonlinear coefficient of thermal expansion over a temperature of -75°C to 500°C, a modulus of no greater than about 105 GPa, and an average tensile strength of at least about 350 MPa.

Claims 23-55 (Canceled).

56. (New) The method of claim 22 wherein the matrix including aluminum comprises at least 99.95 percent by weight aluminum, based on the total weight of the matrix.

57. (New) The method of claim 22 wherein at least about 85% by number of the fibers are substantially continuous.

58. (New) The method of claim 22 wherein the SiO_2 is present in an amount of at least about 15 weight percent, based on the total metal oxide content of the respective fiber.

59. (New) The method of claim 22 wherein the B_2O_3 is present in an amount of less than about 25 weight percent, based on the total metal oxide content of the respective fiber.

60. (New) The method of claim 22 comprising no greater than about 65 volume percent of the fibers, based on the total volume of the wire.

61. (New) The method of claim 60 comprising at least about 15 volume percent of the fibers, based on the total volume of the wire.

62. (New) The method of claim 61 comprising no greater than about 55 volume percent of the fibers, based on the total volume of the wire.

63. (New) The method of claim 62 comprising about 28 volume percent to about 50 volume percent of the fibers, based on the total volume of the wire.

64. (New) The method of claim 22 having thermal expansion behavior represented by lines 1 or 2 of the graph of Figure 1.

65. (New) The method of claim 22 having a modulus of at least about 42 GPa.

66. (New) The method of claim 22 having a modulus of about 48 GPa to about 84 GPa.

67. (New) The method of claim 22 having an average strain to failure of no greater than about 2.5%.
68. (New) The method of claim 67 having an average strain to failure of no greater than about 1.2%.
69. (New) The method of claim 68 having an average strain to failure of no greater than about 1.0%.
70. (New) The method of claim 22 having a longitudinal tensile strain of at least about 90% of the value of the theoretical fiber strain to failure for all fiber fractions.
71. (New) The method of claim 70 having a longitudinal tensile strain of at least about 95% of the value of the theoretical fiber strain to failure for fiber fractions less than or equal to 35 volume percent fiber.
72. (New) The method of claim 22 wherein the fibers further comprise, on a theoretical oxide basis, B_2O_3 in a range of about 10 weight percent to about 20 weight percent, based on the total metal oxide content of the respective fiber.
73. (New) The method of claim 22 wherein the length of the wire is at least about 300 meters.